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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,426	01/09/2004	Chui-Kai Peng	MR2561-144	6738
4586	7590	09/20/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			CHANDRAN, BIJU INDIRA	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/753,426	Applicant(s) PENG, CHUI-KAI	
	Examiner Biju Chandran	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "Radiation deck", "struts" and "undulate fins" of claims 6, 7, 14, and 15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification lacks any description of the struts recited in claims 6 and 14.

The disclosure is objected to because of the following informalities: Suggest renaming "heat-conducting portion": (120 in figures) to "heat radiating portion", or the like to reflect its true function. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6,7,14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 6 and 14 it is unclear from the specification what the applicant is referring to as the struts.

With respect to claims 6,7,14 and 15 it is unclear from the specification what the applicant is referring to as the radiation deck.

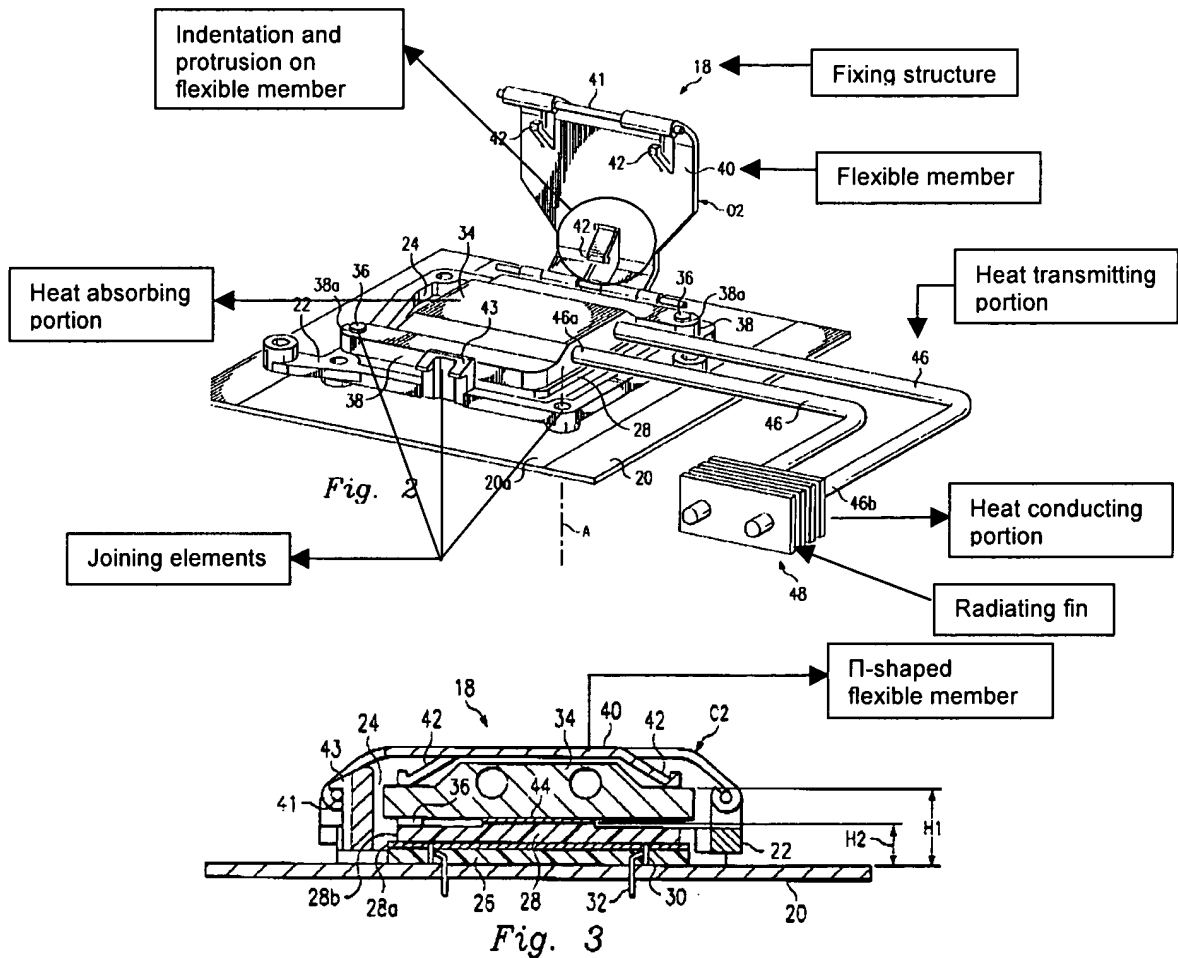
Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,2,4,5, and 9 rejected under 35 U.S.C. 102(b) as being anticipated by Shabbir et al. (US patent 6,400,565 B1).



- Regarding claim 1, Shabbir et al. disclose an improved thermal module adopted for use on an electronic device that generates a small amount of heat, comprising: a heat absorbing portion (34) for absorbing the heat generated by the electronic device (28) during operation; a heat-transmitting portion (46) having one end connecting to the heat-absorbing portion to deliver the heat absorbed by the heat-absorbing portion; and a heat-conducting portion (48) connecting to another end of the heat-transmitting portion for dispersing the heat delivered from the heat-transmitting portion to the ambient.
- Regarding claim 2, Shabbir et al. discloses all the limitations in claim 1, they further disclose the improved thermal module having a fixing structure (18) and a plurality of joining elements (marked in figure), the fixing structure including a flexible member (40) which is a thin plate to cover the heat-absorbing portion and has outer rims to form a fastening structure (marked in figure) to couple with the joining elements to fasten the heat-absorbing portion.
- Regarding claim 4, Shabbir et al. discloses all the limitations in claim 1, they further disclose that the heat-transmitting portion (46) is a heat pipe (column 4, line 44).
- Regarding claim 5, Shabbir et al. discloses all the limitations in claim 1, they further disclose that the heat conducting portion is a

radiation fin that has a large surface area to improve heat dissipation effects (column 3, lines 53-55).

- Regarding claim 9, Shabbir et al. discloses all the limitations in claim 2, they further disclose that flexible member is formed of a cross-section having a n- shape, and it further has a protrusive shape and an indented shape.
- Regarding claim 10, Shabbir et al. disclose an improved thermal module adopted for use on an electronic device that generates a small amount of heat, comprising: a heat absorbing portion (34) for absorbing the heat generated by the electronic device (28) during operation; a heat-transmitting portion (46) having one end connecting to the heat-absorbing portion to deliver the heat absorbed by the heat-absorbing portion; and a heat-conducting portion (48) connecting to another end of the heat-transmitting portion for dispersing the heat delivered from the heat-transmitting portion to the ambient; and a fixing structure (18) which includes a flexible member (40) and a plurality of joining elements (marked in figure), the flexible member (40) being a thin plate to cover the heat-absorbing portion and has outer rims to form a fastening structure (22) to couple with the joining elements to fasten the heat-absorbing portion.

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- Regarding claim 12, Shabbir et al. discloses all the limitations in claim 10, they further disclose that the heat-transmitting portion (46) is a heat pipe (column 4, line 44).
- Regarding claim 13, Shabbir et al. discloses all the limitations in claim 10, they further disclose that the heat conducting portion is a radiation fin that has a large surface area to improve heat dissipation effects (column 3, lines 53-55).
- Regarding claim 17, Shabbir et al. discloses all the limitations in claim 10, they further disclose that flexible member is formed of a cross-section having a π - shape, and it further has a protrusive shape and an indented shape.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

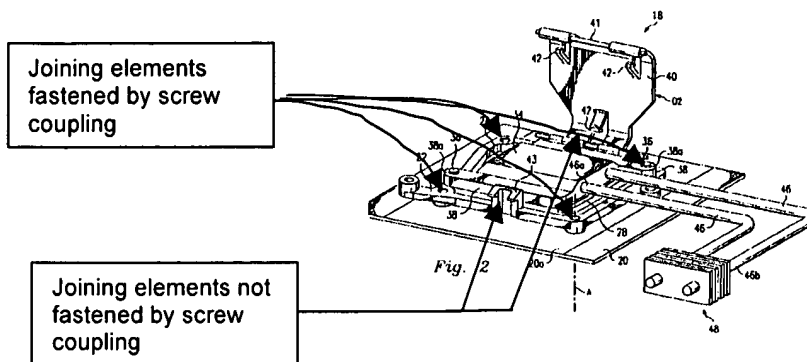
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 6, 8, 11, 14, and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Shabbir et al.

- Regarding claim 3, Shabbir et al. discloses all the limitations in claim 1. Shabbir et al. do not expressly disclose that the electronic

device is selected from a group consisting of a video device and a VGA card. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply the thermal module disclosed by Shabbir et al. to any electronic device that requires cooling.

- Regarding claim 6, Shabbir et al. discloses all the limitations in claim 5. Shabbir et al. do not expressly disclose that the radiation fins have a radiation deck, which has struts extending outwards. Insofar as the radiation deck and the struts have any clear meaning based upon applicant's disclosure, it would have been obvious for a person of ordinary skill in the art to incorporate a radiation deck between the heat transmitting portion and the radiating fins if in fact Shabbir has not already done so, as a support member for the radiating fins.
- Regarding claim 8, Shabbir et al. discloses all the limitations in claim 2. Shabbir et al. further disclose that the fixing structure includes a plurality of fastening holes to fasten some of the joining elements by screw coupling (column 3, line 51). Shabbir et al. do not disclose a screw coupling attachment mechanism for all the joining elements.



At the time the invention was made, it would have been an obvious matter for a person of ordinary skill in the art to fasten all the joining elements using a screw coupling as an alternate equivalent means of fastening the device.

- Regarding claim 11, Shabbir et al. discloses all the limitations in claim 10. Shabbir et al. do not expressly disclose that the electronic device is selected from a group consisting of a video device and a VGA card. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply the thermal module disclosed by Shabbir et al. to any electronic device that requires cooling.
- Regarding claim 14, Shabbir et al. discloses all the limitations in claim 13. Shabbir et al. do not expressly disclose that the radiation fins have a radiation deck, which has struts extending outwards. Insofar as the radiation deck and the struts have any clear meaning based upon applicant's disclosure, it would have been obvious for a

person of ordinary skill in the art to incorporate a radiation deck between the heat transmitting portion and the radiating fins if in fact Shabbir has not already done so, as a support member for the radiating fins.

- Regarding claim 16, Shabbir et al. discloses all the limitations in claim 10. Shabbir et al. further disclose that the fixing structure includes a plurality of fastening holes to fasten some of the joining elements by screw coupling (column 3, paragraph 51). Shabbir et al. do not disclose a screw coupling attachment mechanism for all the joining elements. At the time the invention was made, it would have been an obvious matter for a person of ordinary skill in the art to fasten all the joining elements using a screw coupling as an alternate equivalent means of fastening the device.

4. Claims 7 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Shabbir et al., in view of Mira (US Patent 5,709,263).

- Regarding claim 7, Shabbir et al. discloses all the limitations in claim 5. Shabbir et al. do not disclose undulating radiation fins extending outwards. Mira discloses a heat-conducting portion with undulating radiation fins extending outwards from a radiation deck (Mira, figure 1). At the time the invention was made, it would have

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been obvious to a person of ordinary skill in the art to modify the radiation fins disclosed by Shabbir et al. with the undulating radiation fins disclosed by Mira to increase the surface area of the fins and thereby improve cooling (Mira, column 3, paragraph 55-65).

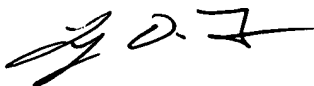
- Regarding claim 15, Shabbir et al. discloses all the limitations in claim 13. Shabbir et al. do not disclose undulating radiation fins extending outwards. Mira discloses a heat-conducting portion with undulating radiation fins extending outwards from a radiation deck (Mira, figure 1). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the radiation fins disclosed by Shabbir et al. with the undulating radiation fins disclosed by Mira to increase the surface area of the fins and thereby improve cooling (Mira, column 3, paragraph 55-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Biju Chandran whose telephone number is (571) 272-5953. The examiner can normally be reached on 8AM - 5PM. Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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